



File Code: 3420

Date: January 30, 2004

Route To:

Subject: 2000-2003 Douglas-fir Tussock Moth Trapping Results

To: Forest Supervisor, Lincoln National Forest

Douglas-fir tussock moth (DFTM), *Orgyia pseudotsuga*, is a native defoliator of major importance in the mixed conifer, Douglas-fir, and true fir forests of the interior west. Outbreaks can result in spectacular defoliation, top-kill, and tree mortality. In addition, hairs from egg masses, larvae, and pupal stages can be irritating to some individuals, causing asthma symptoms or severe skin rashes. These insects are seldom noticed between outbreaks, but populations can reach outbreak levels very quickly.

After remaining at undetectable levels in New Mexico for more than 20 years, DFTM caterpillars were observed in considerable numbers during the summer of 2000 migrating and pupating under tables, tent pads, and on various structures at the Dale Resler Boy Scout Camp, Cloudcroft, NM. Because outbreaks of this insect can develop rapidly with little advanced warning, pheromone trapping and cocoon/egg mass surveys were conducted at several sites in the Sacramento Mountains to assess population levels. The methods, procedures, and results of these surveys are described in our 3420 Biological Evaluation, 01-R3-01, sent to you in October 2000.

In 2001, 2002, and 2003, we continued to place DFTM pheromone traps in the Sacramento Mountains using the trapping procedures implemented in 2000. This survey uses sticky traps baited with a synthetic version of the female moth sex attractant or pheromone, which is one thousand times weaker than the natural pheromone emitted by a female moth. The number of male moths captured in late summer and early fall during the mating season is used as an early warning indicator of future population trends. When average trap catches reach 25 or more male moths, visible defoliation may be expected to occur within the next two years. In the fall of 2000, five traps per site were placed at Devils Canyon, the Observatory along SH244, Dale Resler Boy Scout Camp, James Ridge Lookout, Bear Spring, FS 5662, Karr Canyon, Rio Peñasco, and FS 64 on the Sacramento RD, and Tularosa Canyon and an area 12.3 miles NW of Elk-Silver Campground on Mescalero Apache Tribal lands (Fig. 1). In 2001, five traps were also placed at Sleepy Grass Picnic Area and Apache Campground on the Sacramento RD.

Survey results from 2000-2003 are summarized in Table 1 below. The results of the 2000 and 2001 trapping results, summarized in our 3420 letter dated December 19, 2001, indicated male moth trap catches decreased in 2001 and that eight of the 13 locations trapped had no male moths recorded. In 2002 and 2003, one male moth was trapped at James Canyon Lookout on the Sacramento RD and Mescalero Apache Tribal lands (Location #4 and #11), respectively. These data indicate DFTM populations declined to undetectable levels in 2002 and remained at undetectable levels again in 2003. Although no DFTM egg masses, cocoons, or larvae were observed in 2001, 2002, or 2003, cocoons collected in 2000 contained tussock moth pupae which



were attacked by parasitoid flies or wasps. This may explain why the localized DFTM outbreak on the Sacramento RD collapsed so quickly. We are planning to survey these sites again in 2004. No report was issued in 2002.

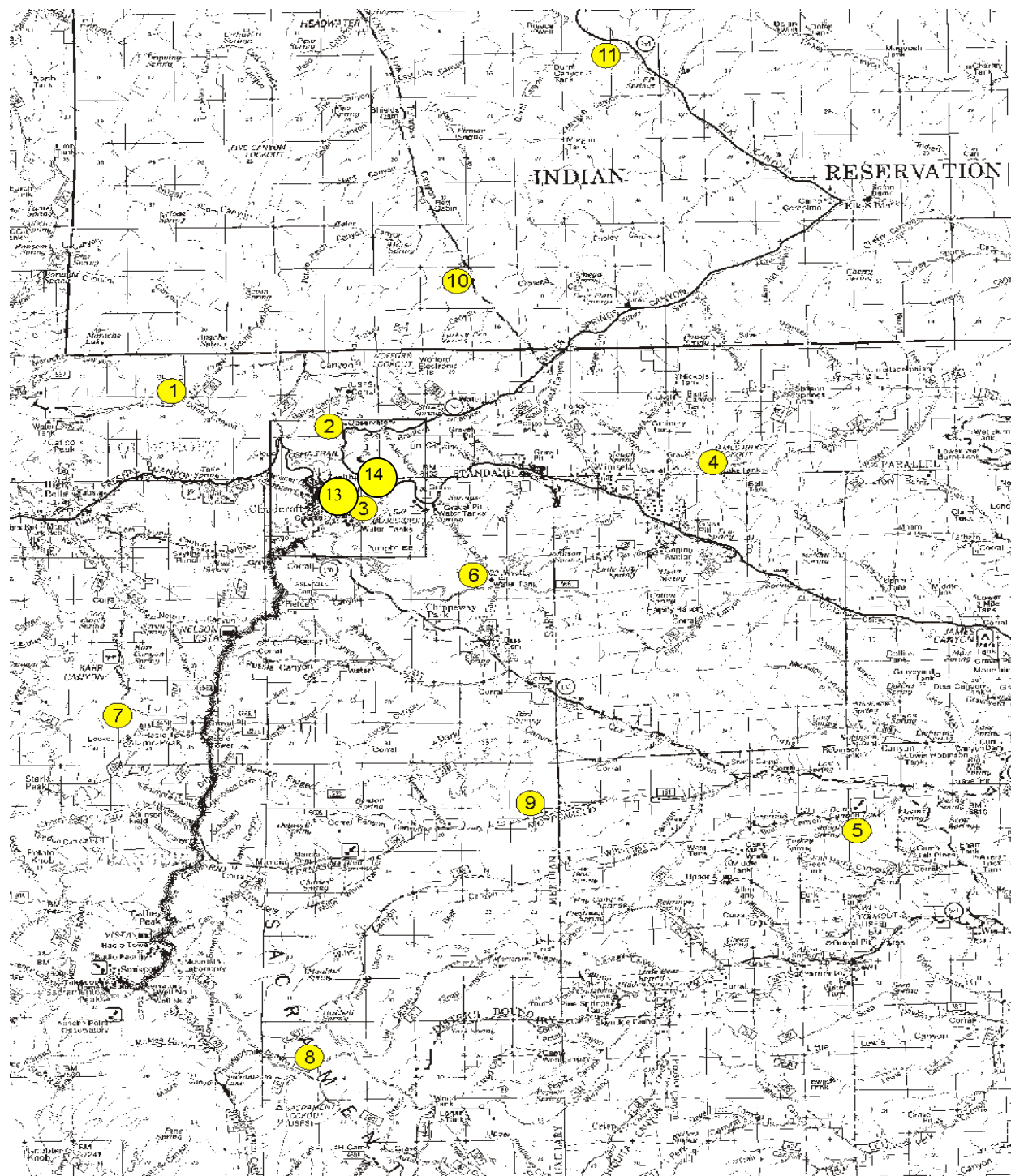


Figure 1. Trapping locations in the Sacramento Mountains, New Mexico.

Table 1. 2000-2003 Douglas-fir Tussock Moth Trap Results

ADMINISTRATIVE UNIT	LOCATION	Total Moths 2000	Average Number of Moths/ Trap 2000	Total Moths 2001	Average Number of Moths/Trap 2001	Total Moths 2002	Average Number of Moths 2002	Total Moths 2003	Average Number of Moths 2003
Sacramento RD, LNF	1. Devils Canyon	3	0.6	0	0	0	0	0	0
	2. Observatory along SH244	8	1.6	0	0	0	0	0	0
	3. Dale Resler Boy Scout Camp	10	2.0	5	1.0	0	0	0	0
	4. James Canyon Lookout	22	4.4	1	0.2	1	0.2	0	0
	5. Bear Spring	17	3.4	4	0.8	0	0	0	0
	6. FS 5662	24	6.0	0	0	0	0	0	0
	7. Karr Canyon	0	0	0	0	0	0	0	0
	8. FS 64	10	2.0	0	0	0	0	0	0
	9. Rio Penasco	1	0.2	0	0	0	0	0	0
	13. Sleepy Grass PA	N/A	N/A	0	0	0	0	0	0
Mescalero Apache Tribal lands	14. Apache CG	N/A	N/A	0	0	0	0	0	0
	10. Tularosa Canyon	7	1.4	1	0.2	0	0	0	0
	11. On 244, 10.8 mi to Elk Springs & 1.5 mi on rt dirt road	6	1.2	0	0	0	0	1	0.2

Note: When sites were numbered, the number 12 was inadvertently skipped. Thus, there is no location number 12 in the above table or on the map showing the locations trapped.

If you have any questions concerning these survey results, please contact Terry Rogers at (505) 842-3287 or contact him by e-mail at trogers@fs.fed.us.

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